

ABSTRACT

A semiconductor laser formed from a semiconductor wafer has an active layer, at least two optical cladding layers, and a ridge waveguide. A ridge top surface of the ridge waveguide is deposited from a first surface of the semiconductor laser wafer by a first height. A plurality of semiconductor mesas are formed on the semiconductor laser wafer and have mesa top surfaces disposed from the first surface by a second height greater than the first height so that the plurality of semiconductor mesas shield the ridge waveguide from mechanical damage.

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